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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,467	08/19/2003	Ajoy K. Ray	ITL.0997US (P14029)	4096
21906	7590	04/03/2006	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			HIRL, JOSEPH P	
			ART UNIT	PAPER NUMBER
			2129	

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/643,467	Applicant(s) RAY ET AL.	
	Examiner Joseph P. Hirl	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>012004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-23 are pending in this application.

Double Patenting

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3. Claims 1-23 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-23 of copending Application No. 10/643,672 This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Specification Objection

4. The specification does not contain a summary of the invention as required by MPEP 608.01(a). This objection must be corrected.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 7, 8, 9, 13, 15, 19, 21, 22 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "similar," and "similarity" are relative and consequently render the subject claims indefinite.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-23 are rejected under 35 U.S.C. § 101 for nonstatutory subject matter. The computer system must set forth a practical application of § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical

application. Partitioning a data base corresponding to object images based on fuzzy similarities subject to a first threshold is useless in a real world situation.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather that the final result achieved by the claimed invention is useful, tangible and concrete. If the claim is directed to a practical application of the § 101 judicial exceptions producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S. C. § 101.

The phrases "partitioning a database," "measure of the object images having fuzzy similarity," "determining a feature set," "using fuzzy logic to search the database," "forming a similarity matrix," are not clear in its purpose or scope.

The invention must be for a practical application and either:

- 1). specify transforming (physical thing – article) or
- 2). have the Final Result (not the steps) achieve or produce a
useful (specific, substantial and credible),
concrete (substantially repeatable / non unpredictable), and
tangible (real world / non abstract) result

(tangibility is the opposite of abstractness).

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended, and if the specification discloses a practical application but

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the claim is broader than the disclosure such that it does not require the practical application, then the claim must be amended.

Claims that are predicated on "if executed" leaving a general limitation if such claims are not executed creating a preemption condition and such claims are not statutory.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Jain et al (USPN 6,121,969, referred to as **Jain**).

Claim 1

Jain anticipates partitioning a database corresponding to object images into a first partition and a second partition based on a fuzzy similarity analysis of a measure of the object images to a first threshold (**Jain**, Abstract, c 7:54-67; c 20:8-65; Examiner's Note (EN): ¶ 13 applies; ordering of a database and partitioning of a database are not functionally distinctive; c20, eqn 12 has a minimum threshold).

Claim 2

Jain anticipates partitioning each of the first partition and the second partition into at least two portions so that the measure of the object images having a fuzzy similarity more than or equal to a second threshold cluster into a selected one of the at least two portions (**Jain**, Abstract, c 7:54-67; c 20:8-65; EN: c 20, eqn 10 has two thresholds).

Claim 3

Jain anticipates deriving a feature set for each of the object images from contours of at least two views of objects corresponding to each of the object images (**Jain**, c 20, eqn 7).

Claim 4

Jain anticipates comprising determining a feature set from image content of a query object image (**Jain**, c 20, eqn 8; c 23:56-64).

Claims 5, 21

Jain anticipates using fuzzy logic to search the database for at least one image similar to the query object image (**Jain**, c 20, eqn 8; c 23:56-64).

Claim 6

Jain anticipates using the fuzzy logic comprises comparing one object image from each of said first and second partitions with said query object image (**Jain**, c 20, eqn 10).

Claims 7, 22

Jain anticipates based on the comparison, obtaining the at least one similar image as a match in the partition that indicates maximum similarity with said query object image (**Jain**, c 20, eqn 12).

Claim 8

Jain anticipates forming a similarity matrix for the object images within the database before partitioning the database (**Jain**, c 7:54-67; EN: ordering of a database re color, color distribution, etc. is not functionally distinct from forming a similarity matrix for object images; timing of the partitioning of the database is also not functionally distinct from a partitioned database).

Claim 9

Jain anticipates obtaining a query image (**Jain**, c 23:56-64); and searching a database corresponding to object images for a solution set having a maximum similarity to the query image using fuzzy logic (**Jain**, c 20:8-65; c 23:56-64).

Claims 10, 16

Jain anticipates searching the database comprises comparing a single image of each of a plurality of sets within the database to the query image (**Jain**, c 23:56-64).

Claims 11, 18

Jain anticipates comparing the single image comprises comparing a feature vector of the query image to a corresponding feature vector of the single image (**Jain**, c 20, eqn 8; c 23:56-64).

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Claims 12, 17

Jain anticipates partitioning the database into a plurality of sets based on fuzzy logic theory (**Jain**, c 7:54-67; c 8:1-3; c 20:8-15).

Claim 13

Jain anticipates partitioning the database into a plurality of levels, each of the levels corresponding to a similarity threshold (**Jain**, c 7:54-67; c 8:1-3).

Claim 14

Jain anticipates displaying at least one object image corresponding to the solution set (**Jain**, c 10:35-41).

Claim 15

Jain anticipates a machine-readable storage medium containing instructions that if executed enable a system to (**Jain**, Abstract; c 1:10-16; EN: ¶ 13. applies): obtain a query image (**Jain**, c 23:56-64); and search a database corresponding to object images for a solution set having a maximum similarity to the query image using fuzzy logic (**Jain**, c 23:56-64; c 20:8-65).

Claim 19

Jain anticipates a dynamic random access memory containing instructions that if executed enable the system to partition a database corresponding to object images into a first partition and a second partition based on a fuzzy similarity analysis of a measure of the object images to a first threshold (**Jain**, Abstract, c 7:54-67; c 20:8-65; EN: ¶ 13 applies; ordering of a database and partitioning of a database are not functionally

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distinctive; c 20, eqn 12 has a minimum threshold); and a processor coupled to the dynamic random access memory to execute the instructions (**Jain**, c 1:6-9).

Claim 20

Jain anticipates if executed enable the system to derive a feature set for each of the object images from contours of at least two views of objects corresponding to each of the object images (**Jain**, c 19:59-67; c 20:1-65; EN: a predicate is equivalent to a view; contour is the vector).

Claim 23

Jain anticipates a display coupled to the processor to display the query object image and the at least one similar image (**Jain**, c 1:6-17).

Examination Considerations

10. The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

11. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

12. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

13. Examiner's Opinion: ¶¶ 10.-12. apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

14. The prior art of record and not relied upon is considered pertinent to applicant's disclosure.

- Lawrence et al, US Pub 2004/0024694

- Hoffberg et al, USPN 6,418,424
- Hoffberg et al, USPN 6,400,996
- Jain et al, USPN 6,121,969
- Barber et al, USPN 5,751,286
- Barber et al, USPN 5,579,471

15. Claims 1-23 are rejected.

Correspondence Information

16. Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

Any response to this office action should be mailed to:

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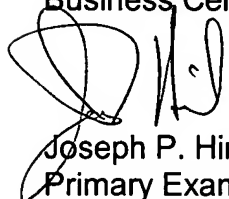
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

 P.E.
Joseph P. Hirl
Primary Examiner
March 28, 2006